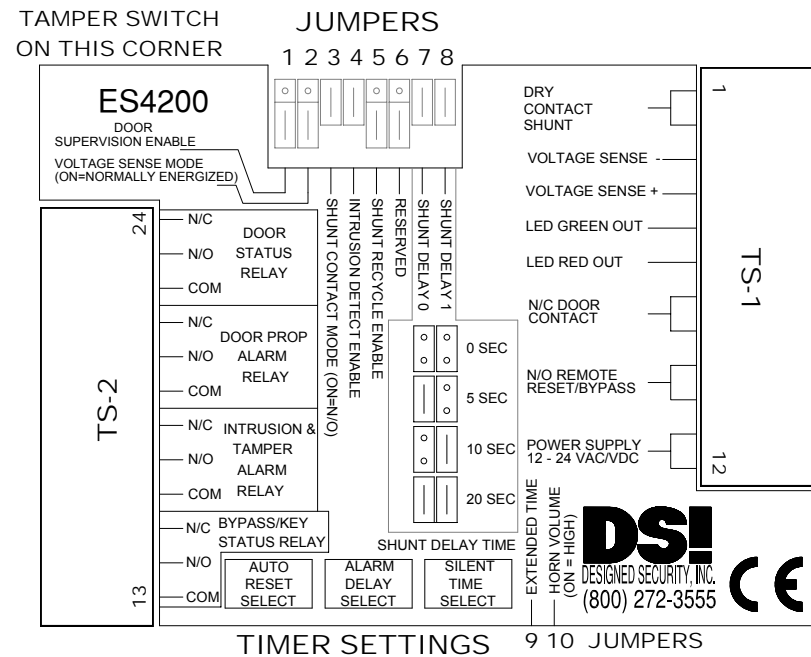


COMPONENT LOCATION DIAGRAM



TIMER SETTINGS 9 10 JUMPERS

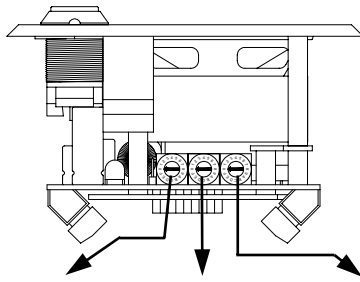
JUMPER	CONFIGURES
1 Door Supervision (Part of Tamper circuit)	TS1-7&8 Door Input
2 Voltage Sense Mode (Senses Lock Voltage as Valid User Input)	TS1-3&4 Voltage Sense Input
3 Shunt Contact Mode (Senses Dry Contact as Valid User Input)	TS1-1&2 Shunt Contact Input
4 Intrusion Detect Enable (Explained on reverse)	Intrusion or Free Access selection
5 Shunt Recycle Enable (Explained on reverse)	Shunt Recycle feature selection
6 RESERVED (Factory Diagnostic)	Factory Use Only Leave Jumper OFF
7 & 8 Shunt Delay Timer (Set same as Lock Time)	Access Time prior to opening door
9 Extended Time	Select Ext. Silent Time 03-90 Min.
10 Horn Volume	Select 96db or 103db

TAMPER CIRCUIT - Alarm is not reset with key.

- TAMPER SWITCH - Switch is located on stand-off under spring steel actuator. **(Cut cable tie to Enable switch)**
- DOOR SUPERVISION - Enable with Jumper 1. Requires resistors on Door Switch. (Schematic on reverse)

TIMER SETTINGS TABLE

SIDE VIEW



SET	SILENT TIME SELECT (Extended Silent Time Jumper)		ALARM DELAY TIME SELECT	AUTO RESET TIME SELECT
	NORMAL Jumper OFF	EXTENDED Jumper ON		
0	0 Sec	3 Min	0 Sec	0 Sec
1	3 Sec	3.5 Min	3 Sec	3 Sec
2	5 Sec	4 Min	5 Sec	5 Sec
3	7 Sec	4.5 Min	7 Sec	7 Sec
4	10 Sec	5 Min	10 Sec	10 Sec
5	12 Sec	6 Min	12 Sec	12 Sec
6	15 Sec	7 Min	15 Sec	15 Sec
7	20 Sec	8 Min	20 Sec	20 Sec
8	25 Sec	9 Min	30 Sec	30 Sec
9	30 Sec	10 Min	45 Sec	45 Sec
A	35 Sec	20 Min	1 Min	1 Min
B	45 Sec	30 Min	2 Min	2 Min
C	1 Min	40 Min	3 Min	3 Min
D	1.5 Min	50 Min	4 Min	4 Min
E	2 Min	60 Min	5 Min	5 Min
F	2.5 Min	90 Min	INFINITE	MANUAL

ELECTRICAL SPECIFICATIONS

	VOLTS	AMPS	N/O	N/C
Power	12-24 VAC/DC	250mA	N/A	
Voltage Sense	12-24 VAC/DC	15mA	N/A	
Shunt Input	Dry Contact		Jumper Select	
Bypass Input	Dry Contact		✓	
Door Input	Dry Contact			✓
Output Relays	Dry Contact	1 Amp@ 30 VDC	✓	✓

MECHANICAL SPECIFICATIONS

- The ES4200 -K0 & K1 mounts flush in a 2.5" deep, 2-Gang electrical switch box.
- ES4200-K3 and -K4 (RIM hardware) requires a 2.5" deep, 3-Gang electrical switch box.
- Optional Pushbutton-equipped units mount in a 2.5" deep, 3-gang electrical switch box. See INS-DMA-PB for Pushbutton specifications. (Not available with K3; K4 key option)

TROUBLESHOOTING TIPS

- Horn won't Reset** - Verify Tamper Switch is closed; Verify Door Supervision Jumper is correct for application; Check Door Contact Resistors are installed as per Step 1 if Door Supervision is enabled.
- LED always Green** - Normal condition when Jumper 4 is OFF; Verify Shunt Contact & Voltage Sense jumpers are correct for your application; Verify Key Switch is Vertical and Bypass Input is open.
- Alarm when Door Opens** - Verify that S0&S1 Jumpers and Silent Time are set greater than 0 sec.; Verify Intrusion Jumper is set correctly for application.
- Clicking Output Relays** - Verify Jumper 6 (Reserved) is OFF.

OPERATION

VALID ACCESS / PROPPED DOOR OPERATION

- ARMED STATE** - Red LED (Green if Intrusion Detect is Off)
- VALID USER INPUT** - Shunt or Voltage Sense Input
LED - Changes to Green
DOOR - Opened by user, Silent Timer begins
DOOR - Closed by user, Returns to Armed State, or
SILENT TIME TIMER - expires, then
AUDIBLE WARNING - Beeps to alert user locally
LED - Flashes Green
DOOR - Closed by user, returns to Armed State, or*
- SHUNT RECYCLE 2nd Valid User Input** (*if enabled)
SILENT TIME RESET - Silent Timer begins again

DOOR HELD/PROPPED - Alarm Delay Times out

- LED - Flashes Red
- AUDIBLE - Constant tone, Auto Reset Timer begins
- OUTPUT - Door Prop Alarm relay toggles

DOOR CLOSED - After Door Prop Alarm exists

- AUDIBLE - On until Auto Reset (AR) Time expires
- LED - Flashes Red for AR Time
- OUTPUT - Relay held for duration of AR Time

INTRUSION OPERATION

- ARMED STATE** - Red LED
DOOR Opened by invalid entry
LED - Flashes Red
AUDIBLE - Constant tone, Auto Reset Timer begins
OUTPUT - Intrusion/Tamper Alarm relay toggles
- DOOR CLOSED**
LED - Flashes for duration of AR Time
AUDIBLE - Continues for duration of AR Time
OUTPUT - Changed for duration of AR Time
- REARM** - After AR time expires OR by Manual reset
LED - Red (Armed State)

TAMPER OPERATION

- ARMED STATE** - Red LED (Door Supervision Enabled)
- TAMPER** (Door circuit open/shorted, or if unit is removed from wall)
LED - Flashing Red
AUDIBLE - Constant tone
OUTPUT - Intrusion/Tamper Alarm relay toggles
- RESET** - Door normal, and Tamper switch closed
LED - Red (Armed State)

FUNCTIONAL DESCRIPTION

INPUTS

The inputs are located on Terminal Strip -1 and include:

- Dry Shunt Input** - a N/O or N/C Dry Contact, selected using Shunt Contact Mode Jumper 3. See Step 3
- Voltage Sense** - Monitors the power wires on an electric lock (i.e.: Mag-lock or Door Strike). Senses change in voltage as valid user. See Step 3.
- Door** - a Closed Loop (N/C) Dry Contact which opens when the monitored door opens. See Step 1.
- Bypass** - Connect to a N/O Dry Contact from a remote location to bypass the unit. See Step 7.
- Power** - 12 to 24 VAC/DC @ 250 mA. The terminals are not polarity sensitive. See Step 5

TIMERS

- Silent Time** - "Open Door" Time - 0-2.5 min. in standard mode, 3 - 90 min. in Extended mode (selected by Jumper 9).
- Alarm Delay** - "Warning" Time - 0-5 min. and "Infinite." Local Beeping Warning Audible sounds during this time.
- Auto Reset** - "Alarm" Time - 0-5 min. and Manual Reset. Constant Alarm Audible sounds during this time.
- Shunt Delay** - Valid Access Time prior to reset if Door is unopened. 0, 5, 10, or 20 seconds (set with Jumpers 7 & 8).

OUTPUTS

- Remote LED** - (located on TS-1) Output for a remote Bi-color LED, output follows LED on Face Plate.
- Door Contact Status** - follows the Door Contact Input, regardless of alarm or bypass condition.
- Door Prop Alarm Status** - changes state during a Door Prop (Door Held) Alarm condition.
- Intrusion/Tamper Alarm Status** - changes state during an Intrusion or Tamper Alarm condition.
- Bypass/Key Switch Status** - follows Bypass and Key inputs.
Output contacts change state when power is lost.

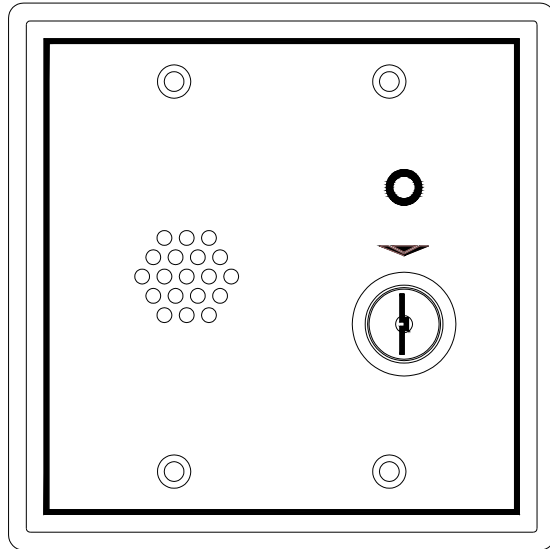
OTHER FEATURES

- Shunt Recycle** - See Step 3.
- Door Supervision** - See Step 1.
- Intrusion Detect** - See Step 2.
- Loud Horn Volume** - See Step 7.
- Extended Silent Time** - See Step 4.
- Shunt Delay Timer** - See Step 4.

OPTIONAL ACCESSORIES

ES440 Pushbutton; ES450 Key Switch; ES600 Annunciator

FOLLOW THE STEP BY STEP CONFIGURATION FOR EASY INSTALLATION



ES4200-K1

The DEFAULT SETUP is for Access Controlled, and Emergency Exit applications.

- This unit may be connected to power and a closed-loop Door Input and be ready to work immediately for the Default application.
- A Voltage Sense input used with a Mag-Lock, and/or a N/C Dry Contact Shunt input will require additional jumper configuration (J2 and/or J3 respectively) and is covered in Step 3.
- The unit is easily configured for a **stand-alone Door Prop application** by removing the Intrusion Detection jumper. (LED will always be Green when Intrusion Detection is disabled.)

Timer Setting Defaults: (Step 4)

- Silent Time 5 seconds;
- Alarm Delay Time 5 seconds
- Auto Reset Time 5 seconds
- Shunt Delay 20 seconds

See text for Feature Description and Setup info.

TERMS USED IN THIS INSTRUCTION

N/C DOOR CONTACT - is a "closed-loop" circuit which goes open when the door is opened.

SHUNT INPUT - is a dry contact Valid User Input provided by an Access Control System or a PIR / REX device.

DMA - Door Management Alarm (i.e.: ES4200 series)

Normally Energized - in reference to a Mag-Lock or other locking device where power is removed to unlock.

Normally De-energized - in reference to a Door Strike or other locking device where power is applied to unlock.

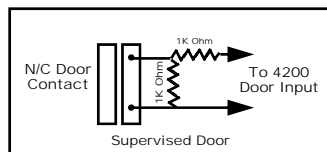
FOR TROUBLE-FREE INSTALLATION, VERIFY EACH SETTING & VERIFY ANY UNUSED FEATURES ARE SET CORRECTLY FOR YOUR APPLICATION

STEP BY STEP Jumpers: ON= short 2 pins;
OFF= one pin only.

1 DOOR, SUPERVISION, AND TAMPER

- Connect N/C Door Contact to TS1 7&8.
- If resistors are installed for Door Supervision:
 - A) place Jumper 1 ON and put resistors at door switch as shown in diagram.
 - B) If unused, leave Jumper OFF and use a closed-loop Door Switch circuit.

DOOR SUPERVISION EXPLAINED
Door Supervision allows the ES4200 to monitor the circuit from the Door Contact for open or shorted wires which may indicate tampering. (via two 1KΩ resistors installed as shown)



- **Tamper Alarm** (cannot be reset or bypassed)
 - A) To Enable feature cut cable tie on Tamper Switch located on standoff (Component Location on reverse).

2 INTRUSION DETECTION

- A) Jumper 4 is ON for Access Control and Emergency Exit Only applications.
- B) Jumper 4 is OFF for Door Prop/Held applications without Access Control.

NOTE: If OFF, LED is Green except during a Door Prop Alarm. If OFF, Go to Step 4-Timer Settings. (Skip Step 3)

4 TIMER SETTINGS SEE TABLE ON REVERSE

- The **SHUNT DELAY TIMER** begins after a Valid User input (prior to door being opened) and **if door is not opened** the DMA will reset when timer expires. Cancels upon door opening.
 - A) Shunt Delay works only with Intrusion Detection enabled.
 - B) See table on Back Plate for Jumper 7&8 setting detail.
- **SILENT TIME SELECT** begins **when the door is opened** by a valid user. (see Timer Setting Table on reverse)
 - A) Timer has **two ranges** selected with Jumper 9;
 - Normal - 0 seconds to 2.5 minutes (Jumper OFF)
 - Extended - 3 minutes to 90 minutes (Jumper ON)
 - B) After selecting appropriate range, turn dial to SET # for the Silent Time period desired for your application.

3 ACCESS CONTROL

- **VOLTAGE SENSE** monitors Lock Power as "Valid User" input on TS1 (3&4)
 - A) If unused, Jumper 2 must be OFF.
 - B) If used, select: Normally Energized (Jumper 2 ON); or, Normally De-Energized (Jumper 2 OFF)

VOLTAGE SENSE EXPLAINED
This input samples the voltage to a Mag Lock (J2 ON) or a Door Strike* (J2 OFF) and accepts a change in voltage as a valid user input. *Normally de-energized.

- **SHUNT INPUT** detects a Dry Contact input for each valid access. TS1 (1&2)
 - A) If unused, Jumper 3 must be ON
 - B) If used, Select: Jumper 3 ON for N/O input; or Jumper 3 OFF for N/C input.

SHUNT INPUT EXPLAINED
This input from a PIR or Access Control system provides user validation.

- **SHUNT RECYCLE** (see description below)
 - A) Jumper 5 is ON
 - B) Jumper 5 is OFF

SHUNT RECYCLE EXPLAINED

- When **Shunt Recycle** is Enabled (ON), a Shunt Contact or Voltage Sense Input during the Alarm Delay warning period (beeping) will reset the Silent Time Timer. Shunt Recycle gives the User the ability to Hold the door indefinitely by repeating a valid input during each Alarm Delay warning.
- When disabled, only a Key or Bypass input will reset the DMA.

- **ALARM DELAY SELECT** begins **on the expiration of the Silent Timer**. Warning Alarm sounds locally to alert user.
 - A) Turn dial to SET # on table (see reverse) for the time you want the Warning (beeping) alarm to sound (prior to triggering the Door Prop Alarm Horn and Relay).

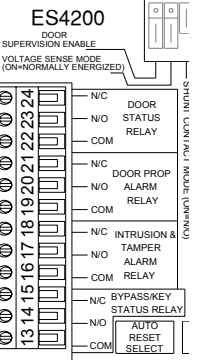
- **AUTO RESET TIME SELECT** is the minimum time the Horn, LED and Relays are on following an alarm condition.
 - A) Turn the dial to SET Timer (0 seconds to 5 minutes, or Manual).

5 POWER

- **POWER** - Connect 12-24 VAC/DC to TS1 11&12. Not polarity sensitive.

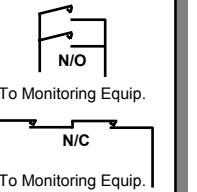
6 OUTPUTS (FORM-C)

- **DOOR STATUS RELAY** TS2-22,23,24 changes state when the Door Input changes. Used to monitor changes in Door Contact status.
- **DOOR PROP ALARM RELAY** TS2-19,20,21 changes state when a door is held open beyond the Silent and Alarm Delay time, combined.
- **FORCED DOOR/TAMPER ALARM RELAY** TS2-16,17,18 changes state when a door is forced or a tamper condition exists (Door Supervision/Tamper Switch).
- **BYPASS/KEY SWITCH STATUS RELAY** TS2-13,14,15 changes state during Bypass (TS1 9&10) and Key Switch Inputs. Used to monitor for changes in Bypass status.



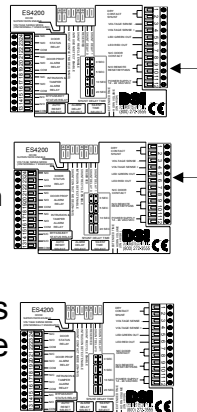
ADDITIONAL OUTPUT INFORMATION

- Each of the Output functions offers the availability of monitoring a Normally Open or a Normally Closed Dry contact.
- Each contact's state will change to follow the status of the monitored function.
- To combine multiple outputs, connect N/O contacts in parallel, or N/C contacts in series. See diagrams at right. The use of any/all Outputs is optional.
- DSI's ES600 (4/8/12) Zone Annunciator series, and Custom Annunciator Panels, offer a turn-key solution for remote monitoring. (such as Security, Nursing, or Management stations, etc.)
- If Power is removed from the ES4200, each contact in it's normal state (powered), will change state. Example: Door Status will appear as if the door has been opened; Alarm and Bypass contacts will appear as if an alarm or bypass condition exists.



7 ADDITIONAL FEATURES

- **BYPASS** TS1 (9&10) input, to N/O contact to remotely Bypass or Reset the unit.
- **REMOTE LED** to TS1 (5&6). (from DSI ES450 with Bi-color LED)
- **HORN VOLUME** - Jumper 10 is used to set the volume of the sounder. ON = 103db
OFF = 96db



COMPONENT LOCATION INFO ON REVERSE